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Research Article

RECOMMENDATION FOR BREEDING GOLDEN-EYED ENTOMOPHAGUS IN BIOLABORATORY CONDITIONS

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ABSTRACT

Using natural entomophages against harmful insects in the production of crops that are as free as possible from chemicals, clean, environmentally friendly products, we achieve not only human health, but also the purity of the environment, as well as the preservation of many species of living beings found in nature.

KEYWORDS

Crops found in cotton, wheat, vegetable crops, orchards and vineyards.

INTRODUCTION

In the field of plant protection, which is becoming a requirement today, it is necessary to support any initiative aimed at the widespread use of biological control measures and the application of multispecies entomophages to production.

Golden-eyed entomophagus, one of the beneficial insects, is mass-produced in biolaboratories operating in our country and is widely used against agricultural pests.

Goldeneyes belong to the family of tarantulas, and 12 species of them have been identified in Uzbekistan.

Among them, common goldeneye (*Chrysopa cornea* Steph), seven-point goldeneye (*Chrysopa septempunctata* Wesm) and other species are very productive species.

The mature species of goldeneyes feed on various plant nectars, flower pollen, cotton and sweet liquid from the back of the leaves of other plants. The goldeneye larva is very voracious and feeds on insects and mites of more than 100 agricultural crops found in cotton, wheat, vegetable crops, orchards and vineyards. Especially harmful to plant aphids, mites, thrips and other pests.

The adult breed of the common golden eye is greenish-yellow, in autumn it becomes pale. It hibernates as an imago under the soil and plant debris, in the crevices of trees and buildings. Those that have wintered come alive in early spring when the air temperature is 110 C. One of the good features of the goldeneye is that it lays its eggs in single 3.5 mm stems in places where plant lice are most abundant, that is, where the larvae will find easy food when they hatch. Eggs are oblong, green, 0.9-x 0.4 mm in size. At the end of embryonic development, it turns gray or light brown. Larvae develop in beak-like form and molt 3 times. The digestive system is closed, does not produce waste. But during molting, it releases liquid like a drop through the anal hole. The bulb is green, open type, and is placed in a cocoon.

To breed the golden-eyed entomophagus in a biolaboratory, it is necessary to breed the grain moth butterfly first. For this, barley is sterilized in boiling water for 1-2 minutes and soaked for a day. It is spread on special trays with a thickness of 2-3 cm and

ventilated until the humidity reaches 16%. On five sides of infected barley placed in a tray, cytotroga eggs (1 gram of cytotroga eggs per 1 kg of barley) are placed on paper. Cytotroga eggs should be stored in a thermostat (240 C temperature, 80% humidity) for 3-4 days.

Barley is not touched until the worms have completely penetrated the grain. Barley is moistened daily until the butterflies begin to fly. Barley humidity should not exceed 16%. Room temperature should be 24-250 C, humidity should be 75-80%.

300 g of barley is placed in 3 l jars after the moth butterflies start to fly. After 50-60 percent of the butterflies start to fly, 300 eggs of newly laid golden eyes are placed on fabric strips. The goldeneye larvae that hatch from the eggs feed on the eggs, larvae and moths of the grain moth. In addition, they are fed with 4-5 crushed worms of the wax moth. (Figure 1). Larvae stop feeding in 15-18 days and turn into a cocoon.



Figure 1. The feeding process of goldeneye larvae with crushed worms in the biolaboratory

Goldeneye imagos begin to appear after 6-8 days. They are immediately transferred to 70-80 jars of 3 l, and clean cloth strips are put into the jars in order to get golden eggs. (Figure 2). It is recommended to fly the goldfish imagos daily into clean 3 l jars. Golden-eyed imagos will quickly get sick if they are not transplanted into clean jars every day.



Figure 2. Goldeneye entomophages propagated in biolaboratory conditions

The goldfish imagos, which are flown into clean jars, are fed with honey and brewer's yeast. Goldeneye imagos start laying eggs after 3-4 days after feeding. (Figure 3). Goldeneye eggs placed on cloth strips are removed every 2-3 days and replaced with clean cloth strips.



Figure 3. Golden eggs laid on fabric

Golden-eyed imagos are flown into clean jars every day and fed in the same way as above. Goldeneye can lay eggs for up to a month. 3-4-day-old eggs or larvae of

golden-eyed entomophagus are used against pests of agricultural crops.

In order to increase the entomophagus entomophagus breeding in biolaboratories, it is recommended to use

natural entomophagus grown in natural conditions, i.e. collected from field crops.

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